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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/797,255

03/10/2004

Brian P. Roarty

5375

37387 7590 09/23/2011  
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EXAMINER

LEACH, ERIN MARIE BOYD

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/797,255	<b>Applicant(s)</b> ROARTY, BRIAN P.	
	<b>Examiner</b> ERIN M B LEACH	<b>Art Unit</b> 3663	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 1-36 is/are pending in the application.
- 5a) Of the above claim(s) 1-3 and 11-36 is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 4-10 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☒ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/7/11 has been entered.

### ***Election/Restrictions***

2. Newly submitted claims 24-36 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Applicant previously elected Species 1E (which corresponds to Figure 6). Figure 6 does not show the optional third block of insulating material separating the first structural core and heat transference block, as recited in Claim 24 (Species 1B; figures 2A and 2B show this feature). Thus, Claim 24 does not encompass the elected invention. Claims 25-36 depend upon Claim 24; therefore, they too do not encompass the elected invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 24-36 are withdrawn from consideration

Art Unit: 3663

as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Examiner has examined Claims 4-10, wherein said claims encompass the elected invention.

### ***Response to Arguments***

3. Applicant's arguments filed 1/19/2010 have been fully considered but they are not persuasive.

4. Applicant argues on page 3, paragraph 4 that

Fukai's assertion that "there is no way to sustain such close D-D pairs in any solids" is not relevant because the instant invention does not depend upon any assertion of an induction of cold fusion by tunneling through the Coulomb barrier and do not require deuterium of D-D pairs.

In response, the examiner notes that the instant application does not disclose any explanation of the claimed LENR or how it is achieved. Fukai's finding that there is no way to sustain close enough D-D pairs in any solids challenges the assertion of LENR via D-D reaction. Based on Applicant's instant disclosure, submitted declarations, and submitted responses, it is clear that Applicant does not know through what means the claimed LENR occurs. Applicant states on page 4, paragraph 5 that he does not have, nor does he expect to have, a fully-fleshed out, and generally accepted theoretical explanation for the phenomena which Applicant asserts to be able to produce and reproduce.

Art Unit: 3663

Applicant states argues on page 3, paragraph 4 that

An objection which is to the theory behind an invention is insufficient to stand against evidence of a reality observed by the inventor and submitted via his declaration as valid and uncontradicted evidence, particularly when said evidence is replicable – not replicated by others practicing the invention as taught in the application.

To this issue of reproducibility, note the following comments by Huizenga (IV) under the heading Reproducibility:

"The foundation of science requires experimental results to be reproducible. Validation is an integral part of the scientific process. Scientists are obligated to write articles in ways that allow observations to be replicated. Instructions should be available to permit a competent and well-equipped scientist to perform the experiment and obtain essentially the same results. Replication in science usually is reserved for experiments of special importance or experiments that conflict with an accepted body of work. The greater the implication of an experimental result, the more quickly it will be checked by other scientists.

As more and more groups, at major universities and national laboratories were unable to replicate either the claimed excess heat or fusion products, proponents of cold fusion quickly pointed out that the experiment was not done properly: one needed different size palladium cathodes, longer electrolysis times and higher currents, they claimed.

Whenever the inability of qualified scientists to repeat an experiment is met by ad hoc excuses, beware. One important role of a scientific article is to provide directions for others. Scientists establish priorities for their discoveries by publishing a clear and well documented recipe of their experimental procedures. If a scientific article fails to include an adequate recipe which allows a skilled reader to reproduce the experiment, it is a warning that the author's understanding of their work is incomplete.

Cold-fusion proponents introduced new dimensions into the subject of reproducibility in science. Some tried to turn the table on reproducibility by giving irreproducibility a degree of respectability. A second aberration was to assign a different value to experiments attempting replication. Only experiments that obtained some fragmentary evidence for cold fusion were to be taken seriously because it was declared that experiments obtaining negative results required no special skills or expertise. This viewpoint led proponents of cold fusion to invite mainly papers reporting positive results when organizing conferences. Such an aberrant procedure is incompatible with the scientific process and usually is viewed negatively by scientists as well as journalists".

Note that "reproducibility" **must go beyond one's own lab**. One must produce a set of instructions, a recipe, that would enable anyone in their own independent lab (including the labs of cold fusion skeptics), to produce the same results. **If**

Art Unit: 3663

**reproducibility only occurs in one's own lab, errors (such as systematic errors)**

**would be suspect**. See for example, Little et al.

As a further issue in regard to reproducibility, experimenters who previously found evidence of excess heat, found no evidence of excess heat when better calorimeter equipment was used (see section 2.2 on page 2 of Morrison (IV) (note that such refers to the work at IMRA (Japan))).

Reproducibility of the alleged positive cold fusion results is clearly a critical feature in determining if a disclosure adequately teaches the artisan how to make and use an invention for its disclosed purpose. Accordingly, the logical conclusion when one does not get identical results and/or the results are not reproducible at will in these cold fusion experiments, is that the alleged positive results are not real but instead, they are due to experimental errors, instrumentation errors, misinterpretation of results, etc.

Furthermore, Applicant's statement that, "an objection which is to the theory behind an invention is insufficient to stand against evidence of a reality observed by the inventor" is incorrect. The applicant asserts that the so-called evidence observed by the inventor is facilitated by the occurrence of LENR. In light of the current state of the art, the occurrence of LENR is highly questionable to say the least. If LENR does not occur in the instant invention, the instant disclosure does not establish the operability and utility of the instant invention. Where the utility of the claimed invention is based upon allegations that border on the incredible or allegations that would not be readily accepted by a substantial portion of the scientific community (e.g., LENR), sufficient

Art Unit: 3663

substantiating evidence of operability must be submitted by applicant. Providing sufficient substantiating evidence that LENR occurs requires Applicant to convey at least some explanation of the theory by which he has successfully produced excess heat via LENR where others have failed. Applicant does not provide said explanation. In fact, Applicant does not even disclose the particular nuclear reaction that occurs.

5. Applicant argues on page 4, paragraph 3 that the production of heat through *some method* is sufficient substantiating evidence of operability. The examiner disagrees. Sufficient substantiating evidence of operability of the instant invention requires evidence showing the production of heat through *LENR*. It is possible that applicant's invention produces the disclosed heat production, but applicant has not sufficiently supported his assertion that said heat production is "excess heat". The term "excess heat" is a conventional term used in this art when referring to heat produced from a cold fusion nuclear reaction. Examiner's question of "how the indirect excitation means functions to enable LENR" is related to how Applicant knows that the indirect excitation means enables LENR rather than some other means of heat production.

Applicant argues that

Applicant is not and cannot be required to provide any explanation of how the indirect excitation means function to enable LENR – not to any extent the word "how" is read to mean requiring a theoretical explanation.

Again, it is well established that where the utility of the claimed invention is based upon allegations that border on the incredible or allegations that would not be readily

Art Unit: 3663

accepted by a substantial portion of the scientific community (note the documents relied on by the examiner in previous office action and below), **sufficient substantiating evidence of operability** must be submitted by applicant. An explanation of how the indirect excitation means functions to enable LENR should be provided.

Regarding the declaration submitting on 1/19/10, it is noted that one cannot rely on the Remarks in a Response to an Office action (or affidavit) to provide subject matter that the specification itself must recite for definiteness and for completeness.

In light of the declaration, the examiner understands that excess heat occurred in the experiment tests that Applicant performed. It then appears that Applicant attributed this "excess heat" to LENR due to two observations - transmutation and exothermic heat pulses.

Applicant's claim of observing exothermic heat pulses does not prove that said heat pulses were a result of LENR. Regarding excess heat, there is no reputable evidence to support the allegation or claim of excess heat production. First of all, applicant provides no assessment or indication of experimental error. There are numerous documents showing how errors can arise in the detection of heat in cold fusion systems and that such errors can lead one to the erroneous conclusion that excess heat is being generated (and consequently, that nuclear fusion reactions are taking place). Buehler et al. note some of the problems that can occur in calorimetry and outlines some criteria for establishing calorimeter performance for definitive measurements of excess heat. It is incumbent upon the applicant to show that the



Art Unit: 3663

alleged result of excess heat is valid and not just the result of experimental errors or misinterpretation of experimental results. This is especially so when the invention is in a field wherein the scientific community in general considers the alleged "excess heat" to be erroneous. Heeter writes in *What is the current scientific thinking on cold fusion? Is there any possible validity to this phenomenon?*, that

"The 'cold fusion' phenomenon, in which the law of conservation of energy is apparently violated when electricity and heat are applied to special systems involving hydrogen isotopes (in water or gaseous form) and particular metals (notably palladium and nickel), defies conventional scientific explanation. All new theories explaining 'cold fusion' effects require large revisions in existing physical theories (one might call them 'miracles'). Scientific skepticism requires that unless the experimental evidence justifies belief in these miracles, we must conclude that experimental errors are being misinterpreted as positive results.

Shanahan questions the conclusion of apparent "excess heat" from cold fusion due to possible recombination considerations at the electrode in an electrolytic cell. Shanahan suggests that in the absence of definitive data ruling out recombination as the source of the apparent "excess heat", the conclusion that cold fusion is the cause the said "excess heat" is premature (Abstract). Applicant's disclosure does not provide sufficient insight or analysis into why recombination at the electrode is not the cause of the alleged "excess heat" production.

Perhaps Applicant has misinterpreted his results. Applicant states in his declaration that

"[w]e noted that our experiments required two hours or more before we began to observe bursts of heat and wondered what was happening that time. We suspected that something must be happening to either the solution or to the electrodes in that period

Art Unit: 3663

that was necessary to facilitate the observed reaction...Reasoning that both silica and lithium are needed in the reaction and that reaction does not occur immediately, we concluded that the silica and the lithium in our protocol are bonding in some way before the reaction occurs."

Applicant argues in his declaration that the chemical process of recombination is precluded in the experimental tests because "in every run of our experiments, there was a minimal 'prelude period' which as a minimum of two hours, but only after that period and after stimulation started did periodic 'heat spiking' begin to occur. Applicant further argues that the chemical process required of recombination would not explain such intense heat spikes as to deform [the metal electrode]."

Goldstein disagrees. Goodstein teaches that, "[i]f heat was generated in these experiments, it was the result of some uninteresting chemical process rather than being due to nuclear fusion. Chemical processes that generate heat are not uncommon in electrolysis experiments. The strongest argument for nuclear fusion (given the near absence of the neutrons and tritium) was that the amount of heat generated was far too large to be due to any chemical process. That would be true, the critics replied, if the chemicals were being generated at the same time as the heat. However, all of these Cold Fusion cells had long, dormant periods during which energy was being pumped in, and no excess heat was being produced. The heat finally liberated in the "Cold Fusion" episodes might just have been chemical energy stored up during the dormant periods. In other words, the cells were not producing more energy than was being put into them, they were just storing up energy and releasing it in bursts.

Applicant also argues that recombination fails to explain evident atomic transmutation detected after the experiments.

Applicant's claim of observing transmutation (i.e. palladium to silver and oxygen to fluorine) are not supported by the quantitative and/or qualitative evidence submitted by Applicant. The assertion of post-protocol presence of nitrogen, aluminum, chlorine and copper resulting from nuclear transmutation requires significant experimental proof. Applicant's submission is not sufficient to meet the burden of proof necessary to convince the scientific community that the above listed heavy element were produced from nuclear transmutation in the instant invention. Schaffer writes in, *What is the current scientific thinking on cold fusion? Is there any possible validity to this phenomenon?*, that production of reported low concentrations of a range of heavy elements, including calcium, titanium, chromium, manganese, iron, cobalt, copper and zinc is "so unexpected from our present understanding of low-energy nuclear reactors, that **extraordinary experimental proof** will be needed to convince the scientific community. All available analytical techniques will have to be applied and the results reproduced." Morrison writes in, *What is the current scientific thinking on cold fusion? Is there any possible validity to this phenomenon?*, that Miley's reports of produced transmutations of nickel to many other elements even as heavy as lead, does not explain the origin of the extra neutrons it takes to create said elements (i.e. lead). Likewise, Applicant does not explain the origin of the extra neutrons it takes to transmute  $_{46}\text{Pd}$  to  $_{47}\text{Ag}$ ,  $_{8}\text{O}$  to  $_{9}\text{F}$ ,  $_{6}\text{C}$  to  $_{7}\text{N}$ ,  $_{12}\text{Mg}$  to  $_{13}\text{Al}$ ,  $_{16}\text{S}$  to  $_{17}\text{Cl}$ , and  $_{29}\text{Cu}$  to  $_{30}\text{Zn}$ . Morrison also writes, "from 1992 onward, claims of transmutations have been made.

Art Unit: 3663

One of these is the 'old alchemists' claim of turning mercury to gold; others claimed small changes in the isotopes. Miley's claim was doubly astonishing, as his claimed transmutations used hydrogen instead of deuterium". It appears that Applicant claim of transmutation also uses hydrogen instead of deuterium. Page 4, paragraph 4 of Applicant's remarks states that "Applicant submits the accompanying declaration from the applicant relating to specific details from the experiments he performed that verifiably, and reproducibly, produced heat in a liquid (water, in fact)." Applicant states on page 10 of the declaration that there is an absence of deuterium in the source water. Thus, it is understood that the liquid of the instant invention is light water (i.e., hydrogen instead of deuterium). Morrison writes that if H-H fusion were to work, the D-D fusion should cause the apparatus to explode (page 8, paragraph 3).

6. Applicant argues on page 3 of the declaration that "no heat spikes were observed during any run during the preparation phase - yet at least one such should have been observed during this time if Shanahan's recombination objected is valid".

In response, the examiner notes that the 'preparation phase' ran for a set period of two hours (declaration; page 3, paragraphs 2 and 3). However, in every run of the experiment, there was a minimal 'prelude period' which was a minimum of two hours, in which no heat spiking occurred (declaration; page 1, paragraph 4). Thus, the lack of heat spikes in the 'preparation phase' may have been due to the limited duration of said phase.

***Specification***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The specification is objected to because the disclosed invention lacks patentable utility. Although applicant's invention may be operable if the combination of the directly stimulating means were used in combination with the indirectly stimulating means (specification; page 15, lines 22-23), applicant elects the indirect stimulating means (which is stated to enable low energy nuclear reactions (LENR)) alone. LENR in this system lacks credibility in view of the over all situation with regard to the production of cold fusion (LENR). The 2004 DOE review on Cold Fusion (reference attached) found the claims that D-D fusion occurs spontaneously when deuterium is introduced into Palladium metal unconvincing, which was also the case in the 1989 DOE review (also attached). Specifically, Reviewer #10 (2004 DOE Report, page 21-22) found the production of cold fusion during electrolysis in a calorimeter, based on the prior art, to be unconvincing due to the complicated system, measurement difficulty and sufficiently small effects. Even the more positive reviews, such as that by Reviewer 11, find that palladium electrolysis, by which cold fusion occurs, is inconclusive noting the lack of consistency of "excess heat" and reproducibility.

Fukai casts doubt on the occurrence of cold fusion induced by tunneling through the Coulomb barrier (Introduction, paragraph 2, lines 4-8) stating that there is no way to sustain such close D-D pairs in any solids (page 269, paragraph 4, lines 1-2) (See also page 271, paragraph 4, lines 1-2).

Art Unit: 3663

Shanahan questions the conclusion of apparent “excess heat” from cold fusion due to possible recombination considerations at the electrode in an electrolytic cell. Shanahan suggests that in the absence of definitive data ruling out recombination as the source of the apparent “excess heat”, the conclusion that cold fusion is the cause the said “excess heat” is premature (Abstract). Applicant's disclosure does not provide insight or analysis into why recombination at the electrode is not the cause of the alleged “excess heat” production.

In light of the recent DOE review conclusions, numerous other references which are skeptical of the occurrence of LENR in condensed matter, and the lack of quantitative or qualitative data in the instant application, the disclosed invention is presently considered to be inoperable and; therefore, lacks utility. As Reviewer #1 stated in the 2004 DOE review, “Extraordinary results require extraordinary proof. Such proof is lacking”.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e., failing to provide an adequate written description. While the specification discloses types direct excitation means, it fails to explicitly disclose what the indirect excitation means is. Without said

Art Unit: 3663

information, it would be impossible for one of ordinary skill to make or use the invention.

The disclosure also fails to provide:

- a. quantitative requirements as to the amount of heat necessary to cause the phase change of the fluid (i.e. thermal requirements);
- b. whether or not continuous heating of the nozzle is required to sustain the phase change at the exhaust;
- c. how or by what method the indirect excitation means enables, supports, or encourages LENR;
- d. the D/Pd atom ratio (Reviewer #6 on page 11, paragraph 5 of the 2004 DOE Report states that a D/Pd atom ratio of .89 is the threshold for "excess heat" and Sakamoto et al., Abstract, lines 24-28 discloses that below a D/Pd ratio of .85 calorimetric data determined that "excess heat" beyond that which is expected from the chemical reaction is not supported."
- e. calibration procedures
- f. evidence of reproducibility
- g. data suggesting the presence of D-D fusion products (e.g. excess tritium, neutron bursts, helium-3) after the alleged excess heat was produced.

In view of the above considerations, the lack of utility and adequate written description, the specification would require one of ordinary skill in the art to perform undue experimentation in order to practice the invention. Therefore, the specification is

Art Unit: 3663

also objected to under 35 U.S.C. 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e., failing to provide an enabling disclosure.

(A) The breadth of the claims require experimentation to determine if the energy claimed to be transferred into the nozzle actually heats the nozzle (through LENR) and if the heat, if it were to exist, is sufficient to induce a phase change of the fluid;

(B) The nature of the invention is achieving low energy fusion reactions in condensed matter, in order to generate heat, in much the same way as Fleischmann and Pons claimed to do in 1989;

(C) The state of the prior art is such that since 1989 researchers have been attempting reproduce the results of Fleischmann and Pons (e.g. LENR), but after decades of research and minimal progress, the 2004 U.S. DOE Cold Fusion report concludes that prior art is inconclusive and/or unconvincing.

(D) The level of ordinary skill in the art is not adequate to perform hot fusion, but not cold fusion, especially in a repeatable manner (see 2004 DOE final report, page 3, paragraph 4, lines 12-14);

(E) The level of predictability in the art is nil. It is known that fusion reactions are capable of occurring under certain circumstances and when they do, at least some heat



Art Unit: 3663

is produced. However, the D-D fusion reaction suggested for producing heat in the instant application is inconclusive. In fact, the products (helium above background levels and fusion products (e.g. neutrons, tritium, etc.)) of the D–D reaction are usually not or never present after heat from a cold fusion reaction is reported to be present (2004 DOE report; page 3, paragraph 4, lines 1-6 and 1989 DOE report; page 1: paragraph 2, lines 6-9).

(F) The amount of direction, or lack thereof, provided by the inventor in the disclosure omits information essential to the utility and/or manufacture of the claimed invention (i.e. an example of an indirect excitation means, how the indirect excitation means functions to enable LENR, temperatures requirements, etc.);

(G) The inventor has not provided any working examples indicated by a precise description or quantitative or qualitative data;

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure would require at least significantly more research into the material science aspects of deuterated metal, as suggested in the 2004 DOE report (page 5; paragraph 4, lines 4-6). In fact, as stated in the 1989 DOE report (page 3; paragraph 5, lines 1-3); making or using this invention would require the invention of an entirely new nuclear process.

Art Unit: 3663

On the basis of consideration (A)-(H), it is concluded that the disclosure fails to provide enablement (*In re Wands* 858, F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Circuit 1988)).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons for this rejection are the same as the reasons for the objection to the specification for lack of enablement as given above.

7. Claims 4-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

Art Unit: 3663

invention. The reasons for this rejection are the same as the reasons for the objection to the specification for lack of enablement as given above.

7. Claims 4-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not provide support for a means for electrical stimulation *inducing* a low energy nuclear reactor (LENR), as recited in claim 4. The specification discloses a means for electrical stimulation which *enables, supports, or encourages* LENR. Induction is not synonymous with enablement, support, or encouragement.

8. Claims 4-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As a result of the claims lacking written support and enablement, they are vague and ill-defined in their metes and bounds; therefore, rendering them indefinite.

### ***Claim Rejections - 35 USC § 101***

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 4-10 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. The reasons for this rejection are the same as the reasons for the objection to the specification for lack of utility as given above.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN M B LEACH whose telephone number is (571)270-5378. The examiner can normally be reached on Tuesday - Friday 11:00 AM - 9:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/797,255  
Art Unit: 3663

Page 20

/ERIN M B LEACH/  
Examiner, Art Unit 3663